Cumberland Bridge
Mathews
Grant County
Indiana

HAER NO. IN-50

WRITTEN AND HISTORICAL DATA

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Historic American Engineering Record
National Park Service
Department of the Interior
Washington D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

Cumberland Covered Bridge

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Location:	Spanning the Mississinewa River on the outskirts of Mathews, Indiana. UTM: 16.572740.4479990 Quad: Hartford City West, Indiana.
Date of Construction:	1879
Present Owner:	
Significance:	The Cumberland Covered Bridge is a typical example of the bridges designed and erected by Robert W. Smith.
Historians:	Robert Rosenberg Donald Sackheim

Spanning the Mississinewa River on the outskirts of Matthews, Indiana, the Cumberland Covered Bridge is a typical example of the Smith patent truss system used in bridge construction throughout the Midwest. Built in 1879, the 183 foot long bridge was swept downstream when the Mississinewa overflowed its banks during the flood of 1913. Returned to its original site on rollers, the bridge was raised three feet on its abutments, and withstood another flood which ravaged the area in 1958.

The bridge was erected by Robert W. Smith, the inventor of the patented truss system which bears his name. Smith was born in 1833 in Charleston, Ohio and educated at home. At 15 he received his only formal education, a six week course in geometry at the local schoolhouse.

After working as a carpenter and barn-builder, Smith devised a new type of wooden bridge in 1867 which used a double set of x-bracing without the need for a tension member and thereafter he made successive improvements on the design. Smith's design was economical, efficient, and stable, and "at a time when the wood and iron Howe truss was extremely popular, Smith's bridge received a patent and temporarily reversed the trend to iron." [1] At least eight of Indiana's surviving covered wooden bridges were of the Smith patent type.

Most often the Smith Bridge Company erected its own bridges, although occasionally a close associate might contract for the work if it were outside the Midwest region. The components were generally built in the company yards and shipped to a prepared site. If the site or transportation costs made this impossible, provisions could be made to use local timbers. Standard charges for a complete bridge by the Smith Company were:

100 feet--$16.00 per foot
125 feet--$18.00 per foot
150 feet--$20.00 per foot
200 feet--$24.00 per foot. [2]

Construction costs were frequently adjusted to market rates and exigencies of competitive bidding, although $1.00 to $1.50 per foot was generally the standard royalty fee.

The Cumberland Covered Bridge is composed of 17 panels or bays with an overall length of 183 feet and a clear span of 165 feet. The height from floor to peak is 20 feet 10 inches and the distance from center to center of the panels is 10 feet 8 inches.

Cumberland Covered Bridge

Notes

1 Richard Sanders Allan, Covered Bridges of the Middle West, p. 21.

2 Ibid., p. 23.

Bibliography

Allan, Richard Sanders. Covered Bridges of the Middle West. Brattleboro, Vermont: 1970.

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